



National Aeronautics  
and Space Administration

February 26, 1996  
NRA 96-OSS-04

# RESEARCH ANNOUNCEMENT

**CONTIN**

ULTRAVIOLET, VISIBLE, AND GRAVITATIONAL  
ASTROPHYSICS

RESEARCH AND ANALYSIS PROGRAM

Letters of Intent Due: March 29, 1996

Proposals Due: June 7, 1996

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96-015792

**ULTRAVIOLET, VISIBLE, AND GRAVITATIONAL ASTROPHYSICS  
RESEARCH AND ANALYSIS PROGRAM**

NASA Research Announcement  
Soliciting Proposals  
for the  
Ultraviolet, Visible, and Gravitational Astrophysics  
Research and Analysis Program

**NRA 96-OSS-04**

**Issued: February 26, 1996**

**Letters of Intent due: March 29, 1996**

**Proposals due: June 7, 1996**

Office of Space Science  
National Aeronautics and Space Administration  
Washington, DC 20546 - 0001

## NASA RESEARCH ANNOUNCEMENT

### ULTRAVIOLET, VISIBLE, AND GRAVITATIONAL ASTROPHYSICS RESEARCH AND ANALYSIS PROGRAM

#### LIST OF APPENDICES AND TABLES

Appendices are available via anonymous ftp or the World Wide Web from:  
[ftp://ftp.hq.nasa.gov/pub/astrophysics/NRAs/UV\\_Visible/1996\\_R+A](ftp://ftp.hq.nasa.gov/pub/astrophysics/NRAs/UV_Visible/1996_R+A) or by paper  
hardcopy (contact H. Hasan at (202) 358 0377, e-mail: [hhasan@hq.nasa.gov](mailto:hhasan@hq.nasa.gov)).

#### Appendices:

- A. Ultraviolet, Visible, and Gravitational Astrophysics Research and Analysis Program
- B. Instructions for Responding to NASA Research Announcements
- C. Guidelines for Preparation of Proposal Cost Summaries
- D. Additional Information Regarding Proposal Submission, Evaluation, Selection, and Implementation
- E. Cover Pages, Budget Forms, and Institutional Certifications

#### Tables:

- 1. Missions Relevant to Ultraviolet, Visible, and Gravitational Astrophysics Research and Analysis
- 2. Current Ultraviolet, Visible, and Gravitational Astrophysics Research and Analysis Categories and Selected Topics

## ULTRAVIOLET, VISIBLE, AND GRAVITATIONAL ASTROPHYSICS RESEARCH AND ANALYSIS PROGRAM

This NASA Research Announcement (NRA) solicits basic research proposals to conduct investigations which are relevant to the NASA Ultraviolet (UV), Visible, and Gravitational Astrophysics program. There are two primary goals: to obtain a better understanding of astrophysical objects and phenomena as revealed through their ultraviolet and visible radiation (over the range of roughly 100 Angstroms to H $\alpha$ ); and to investigate topics in general relativistic and gravitational astrophysics. Proposed research may include observational topics, as well as experimental laboratory astrophysics, provided that studies pertain directly to NASA UV, Visible, and Gravitational Astrophysics related space missions. Supporting technology studies and laboratory facilities of importance to the future of UV/Visible flight programs are also included within the scope of this program. Only a very limited ground-based observing program will be supported (see Appendix A). While the overall scientific and technical merit of the proposed research is the primary selection criterion, relevance to NASA missions is of nearly equal weight and must be explicitly described in the proposal.

**Please note that the Sounding Rocket and Detector Development Programs are NOT covered by this NRA. In addition, theoretical investigations pertaining to UV/Visible astronomy should be submitted to the NASA Astrophysical Theory Program and data analysis and catalogue-based research projects should be submitted to the Astrophysics Data Program. Neither type of proposal will be considered under this NRA. Please contact Dr. Guenter Riegler, Office of Space Science, NASA Headquarters, (202) 358-0339, regarding the Astrophysical Theory Program or the Astrophysics Data Program.**

It is expected that roughly \$1 million will be available in FY 1997 for the funding of about 20 3-year grants split among four categories: laboratory UV astrophysics, gravitation and general relativity, supporting UV technology, and ground-based astronomy.

Participation in this program is open to all categories of organizations, including industry, educational institutions, nonprofit organizations, NASA Centers, and other Government agencies. Appendix D provides specific information on Foreign Participation.

Further details relevant to the UV, Visible, and Gravitational Research and Analysis Program are included in the appendices, which are available electronically via anonymous ftp or the World Wide Web, or by hard copy upon request from Dr. Hasan's address given below. **Appendix A** provides specific information relevant to this program, including a compilation of relevant NASA missions, and representative topics of investigation. **Appendix B** contains the basic generic guidance needed for preparation of solicited proposals in response to an NRA. **Appendix C** provides

generic information relevant to the cost section of proposals. While cost proposals are not required to conform exactly to this format, information supplied at this level of detail would be very helpful in aiding expeditious processing of the grant procurements for selected proposals. **Appendix D** provides additional information on the submission of proposals and their evaluation, selection, and implementation that augments the information contained in Appendix B. The information in Appendix D is applicable to this NRA only. **Appendix E** contains the title page and first data sheet for the offerer's proposal, together with the required budget forms and forms for institutional certifications. Please replicate these forms and use them in your submission.

IDENTIFIER:	NRA 96-OSS-04
SUBMIT LETTERS OF INTENT TO PROPOSE EITHER TO:	Dr. H. Hasan Office of Space Science Code SZ National Aeronautics and Space Administration Washington, DC 20546-0001
OR ELECTRONICALLY TO:	e-mail: <a href="mailto:hhasan@hq.nasa.gov">hhasan@hq.nasa.gov</a>
SUBMIT LETTERS OF INTENT BY:	March 29, 1996
SUBMIT PROPOSALS TO:	Astrophysics Support Program UV, Visible, and Gravitational Astrophysics Research and Analysis Program 400 Virginia Avenue, Suite 700 Washington, DC 20024 Phone: (202) 554-4923 or (202) 554-2775
PROPOSAL DUE DATE:	June 7, 1996
NUMBER REQUIRED:	15 copies
SELECTING OFFICIAL:	Director, Astrophysics Division Office of Space Science
ANONYMOUS FTP OR WORLD WIDE WEB FROM:	<a href="ftp://ftp.hq.nasa.gov/pub/astrophysics/NRAs/UV_Visible/1996_R+A">ftp://ftp.hq.nasa.gov/pub/astrophysics/NRAs/UV_Visible/1996_R+A</a>

ADDITIONAL INFORMATION  
CAN BE OBTAINED FROM:

Dr. H. Hasan  
Office of Space Science  
Code SZ  
National Aeronautics and Space  
Administration  
Washington, DC 20546-0001  
Phone: (202) 358-0377

Your interest and cooperation in participating in this effort are appreciated.



Wesley T. Huntress, Jr.  
Associate Administrator for  
Space Science



# NASA Research Announcement (NRA)/Announcement of Opportunity (AO) Mailing List Update

**If your current address is NOT up-to-date, please fill out this form completely.**

*This is the update form for the NASA Office of Space Sciences (OSS) NRA/AO mailing list. Please fill out CONTACT INFORMATION completely. Check only those that apply in Institution Type and Discipline. Fold the form, secure with tape, and mail it back to the address on the reverse side. Proper postage must be applied.*

## MUST CHECK ONE

Please check which announcements you would like to receive:

- ☐ 1. NASA Research Announcements (basic, non-flight, on-going research)  
☐ 2. Announcements of Opportunity (specific space flight mission)

Must check one, please include code number from mailing label:

- ☐ 1. Please **add** my name to the mailing list.  
☐ 2. Please **remove** my name from the mailing list (please attach mailing label)  
☐ 3. Please **update** my current listing.

## CONTACT INFORMATION

If your address has changed or your mailing label is incorrect, please provide **COMPLETE** contact information.

Code Number: (obtain from mailing label)	<input type="text"/>	Salutation: (Mr., Mrs., Ms., Dr., Prof., etc.)	<input type="text"/>	Suffix: (Ret., PhD., Jr., III, etc.)	<input type="text"/>
First Name:	<input type="text"/>	MI:	<input type="text"/>	Last Name:	<input type="text"/>
Organization:	<input type="text"/>				
Division / Department:	<input type="text"/>				
Street:	<input type="text"/>				
City:	<input type="text"/>	State:	<input type="text"/>	Zip:	<input type="text"/>
Telephone No:	<input type="text"/>	Fax No:	<input type="text"/>		
E-Mail Address:	<input type="text"/>		Internet Address:	<input type="text"/>	
Country: (foreign addresses, please specify)	<input type="text"/>				

## Institution Type

(check only those that apply)

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> 1. College or University          | <input type="checkbox"/> 4. Minority Business     | <input type="checkbox"/> 7. Other Government Agency |
| <input type="checkbox"/> 2. Minority College or University | <input type="checkbox"/> 5. NASA HQs/Center       | <input type="checkbox"/> 8. Private Industry        |
| <input type="checkbox"/> 3. Foreign Addressee              | <input type="checkbox"/> 6. Nonprofit Corporation | <input type="checkbox"/> 9. Small Business          |

## Societies:

- ☐ A. American Astronomical Society      ☐ B. American Geophysical Union      ☐ C. Others \_\_\_\_\_

## Discipline:

(check only those that apply)

**(MUST CHECK AT LEAST ONE)**

### 1. Astronomy and Astrophysics

- ☐ A. Theory and Modeling  
☐ B. Instrumentation (Technology Dev)  
☐ C. Laboratory Astrophysics  
☐ D. Data Analysis (Archival)  
☐ E. Observational Programs

### 2. Solar System Exploration

- ☐ A. Planetary Atmospheres and Astronomy  
☐ B. Planetary Materials and Geochemistry  
☐ C. Planetary Geology and Geophysics  
☐ D. Instrument Development  
☐ E. Origins of Solar Systems  
☐ F. Exobiology

### 3. Space Physics

- ☐ A. Cosmic and Heliosphere Physics  
☐ B. Solar Physics  
☐ C. Magnetospheric Physics  
☐ D. Iono-Thermo-Mesospheric Physics

### 4. Information Systems/Computer Science

- ☐ A. High Performance Computing and Networking  
☐ B. Scientific Data Analysis and Visualization  
☐ C. Science Data Storage and Management  
☐ D. Software Technology

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**10-18-96**